9-1-2011

Risk Fauna Management In Mexico: Accomplishments in ASA airports

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Session 4:
Management of Habitats on and off the Airport Part 1

11:00 AM – 12:30 PM Oakes South Room
Moderator: Scott Snow

Tools for birds' ecological carrying capacity management at airports
11:00 AM
Ofer Bahat

An airport should be looked at as an ecological environment which holds a variety of resources, with different availability for birds. Two year study at an IAF airbase clearly demonstrated the correlation between the ecological characteristics of various niches and the bird species which exploit the available resources at these niches. Based on these results, the present paper proposes management as a major tool for the reduction of carrying capacity for birds at the different niches. The management techniques should include general steps which address a variety of bird species. However, in addition, species specific measures that address the ecological needs of a species in order to significantly reduce the availability of its ecological resources should also be implemented. The management tools may include simple techniques such as removal of debris (used as raptor hunting posts), removal of trees (used as hunting posts, nesting, or roosting). In addition, decrease of vegetation using environmentally-friendly methods (such as coverage of open areas to prevent seed development) and prevention of open water reservoirs use by birds should also be considered. Moreover, the proposed approach prioritizes highest carrying capacity areas at the airport and its vicinity. These areas should be managed side by side with the use of intensive detection methods (e.g. cameras and radars) along with intensive deterrence activities (e.g. acoustic and visual). The combination of the management and control activities at high priority ecological niches provides the best outcome in the reduction of bird activity at these prioritized areas.

Risk Fauna Management in Mexico: ASA Airports Experiences
11:30 AM
Magdalena Colunga

An Integrated Fauna Management Plan (IFMP) has been a very successful experience over the past 6 years in Mexican airports. Fifteen out of eighteen ASA airports so far are applying such Plans and nowadays, we observe important results in the reduction of fauna strike risk. The IFMP considers four basic stages: Diagnose, proposal of management measures within a Management Plan, the execution of such plan and a Training Program. We present our results for three ASA airports: Matamoros (MAM), Ciudad Obregon (CEN) and Nuevo Laredo (NLD), discussing their differences, particular problems involved and fauna management solutions and results. Daily monitoring of fauna within airport boundaries was done, personnel interviews, and trap cameras for fauna identification were used. Also, attractors in the nearby area within a ratio of 13 km around each airport were identified and monitored. Fauna species composition for each airport was obtained and scaled within five classes according to their implied risk considering their size, abundance, behavior, frequency and previous reports. Protected species were identified as they required special management measurements. Management plans were defined and applied for each airport considering a general phase (habitat management) and a specific phase (capture and relocation or control measures). Also, more than 100 ASA members were trained considering all field and desk activities involved in the IFMP and a data base for each airport, as well as a national data base are being developed. We conclude that management actions have been successful in reducing risk fauna incidence within airport boundaries.

You Can't Fight Progress... Or Can You?
12:00 PM
Lauren Caister

Almost inevitably, land development around airfields eventually leads to proposed developments that may potentially act as bird attractants (e.g. landfills, quarries, lakes and ponds), which will predictably increase the bird strike hazards already faced at these locations. Oftentimes, airfields would prefer to block these types of developments entirely. Unfortunately it is generally not practical to achieve this goal. The first reaction of the airfield is typically to attempt to outright prevent the construction of these proposed developments. This may, however, not be the best reaction. An adversarial and obstructive stance can often lead to extensive legal battles, poor public relations, and protracted disputes over the development that can negatively impact all parties. This presentation will look at using a cooperative, rather than an oppositional, method of dealing with new wildlife attractions on lands surrounding airfields. Specifically we will discuss the utilization of letters/contracts of agreement between the owning entity of the airfield and the owners of the proposed development. Several case studies will be examined to illustrate how these arrangements should be drafted, as well as why supporting these developments, while counterintuitive, may ultimately produce a better and safer end result than taking a hostile stance.

Networking Lunch
12:30 PM – 1:30 PM Oakes North Room & Foyer

2011 Bird Strike North America Conference

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Magdalena Colunga, Jorge García-Burgos, Arturo Ortiz, Norma Fernández-Buces

September, 2011

Introduction

Aeropuertos y Servicios Auxiliares (ASA) is an independent government agency. The main functions of the organization are to design, build and operate airports, as well as 62 fuel farms.

Since 1965, ASA has contributed to the building of the airport industry in Mexico. ASA is responsible of providing a safe, secure, efficient service, and environmental concerns**.**

Airports

- Until 1998, ASA operated 63 airports in the Mexican Airport System.
- Currently, ASA operates 18 airports and participates as a partner in other five.
- **15 airports have a Wildlife Hazard Management Program**.

Reporting wildlife strikes in Mexico

- Increase in the number of incidents
- Mexico has participated in the Bird Strike Committee USA-Canada Conferences since1997
- Web report: http://aplicaciones3.sct.gob.mx/riaf/home.do

Wildlife Hazard Management Program

Airport Datasheet

Ficha técnica	
Datos Generales	
Nombre	Aeropuerto Internacional de Cd. Obregón
Designador	CEN
Categoría	V
Clasificación	Internacional
Tipo	Regional
Superficie	385.6 ha
Pistas	
Número de pistas	1
Tipo de pavimento	Asfalto
Designación pista	13-31
Dimensión pista	2,300 x 45 m
Capacidad (ops. x hora)	20
Rodajes	
Rodaje	Alfa de 370 x 23 m
Tipo de pavimento	Asfalto
Rodaje	Bravo de 215 x 23 m
Tipo de pavimento	Concreto
Plataforma Comercial	
Superficie	17,325 m²
Tipo de pavimento	Concreto Hidráulico
Número de posiciones	3
Plataforma de aviación general	
Superficie	10,640 m²
Tipo de pavimento	Asfalto
Número de posiciones	18
Edificio terminal comercial	
Superficie total	4,069.17 m²
Capacidad (pas. x hora)	600
Datos operacionales	
Horario de operación	06:00 a 18:00 hrs.
Avión máximo operable	Boeing 757

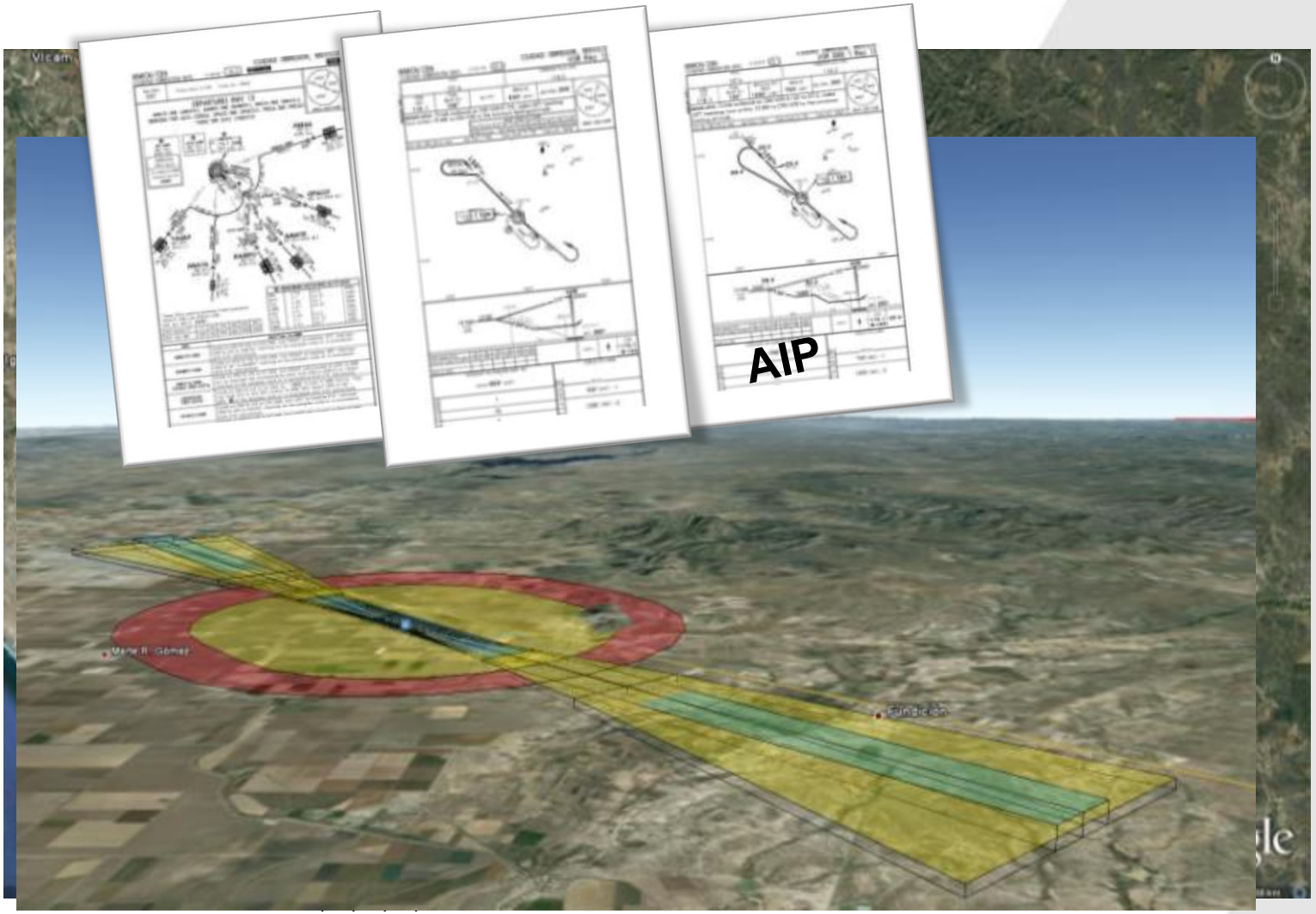
SAAB-340 (Aeroméxico)

ERJ-145 (Aeroméxico)

LET-410 (Aeropacífico)

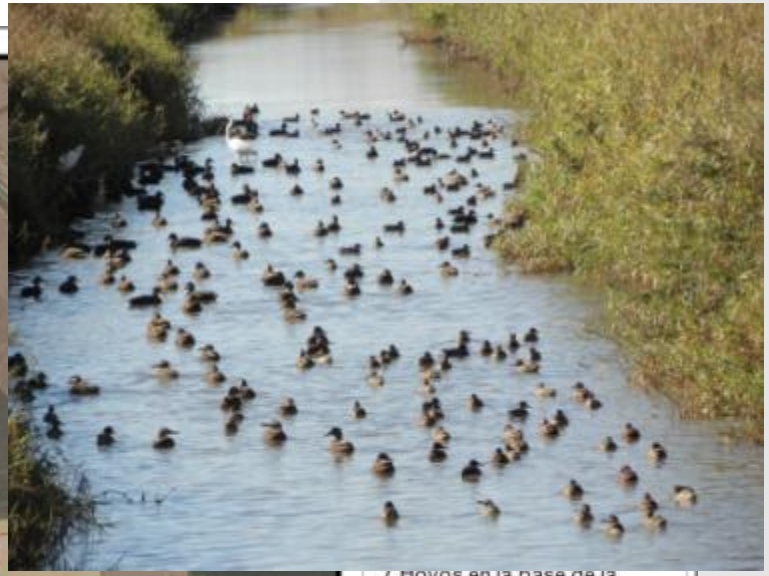
Cessna-208 (Aerocalafia)

Recognizing hazardous wildlife attractants on or near airports



Attractive sites for hazardous wildlife near airports

Identification of attractive sites on airports



Airport vegetation and zonation (TPQ)

Airport zonation

CVM

CTM

UPN

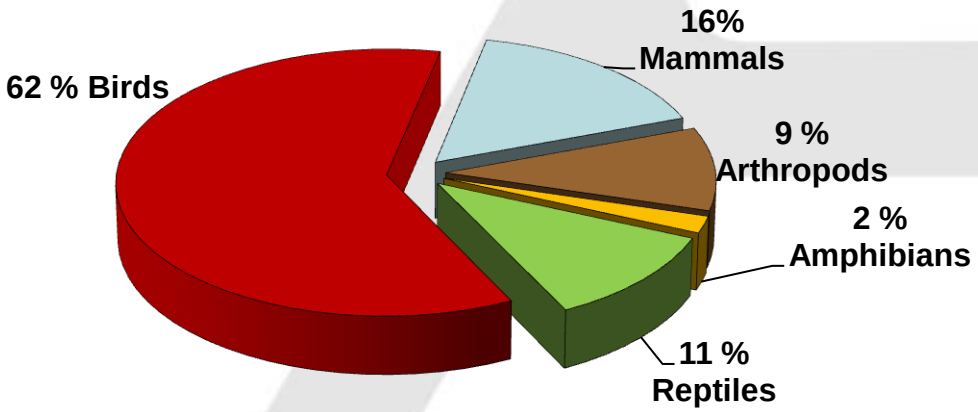
Hazard assessment

Hazard level: 1) size, 2) number of organisms, 3) behavior in relation to aircraft, 4) likelihood of being in the path of an aircraft and 5) strike records

Hazard level	Value
Very High	4
High	3
Medium	2
Low	1
Undetermined (ND)	0

Airport	Species	Hazard level					
		Very High	High	Medium	Low	ND	To humans
CTM	126	9	11	17	77	13	0
CVM	109	13	11	13	57	10	5
UPN	94	3	3	13	25	50	0

Wildlife Distribution



Endangered or threatened species

Airport	NOM-059-SEMARNAT-2010 Official list of species under conservation				IUCN	CITES		Total
	Endangered	Threatened	Vulnerable	Endemic	Critically Endangered	I	II	
CTM	1	5	9	-	-	-	8	23
CVM	-	3	6	2	-	-	9	15
UPN	1	1	1	10	1	-	3	15

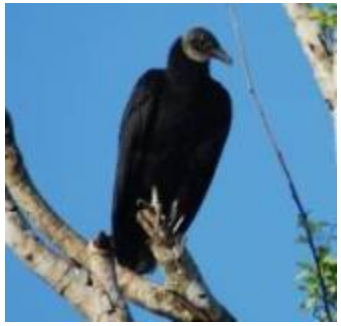
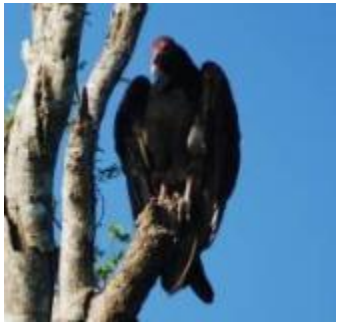
IUCN = International Union for the Conservation of Nature.

CITES = Convention on International Trade in Endangered Species of Wild Fauna and Flora

SEMARNAT: Ministry of Environment and Natural Resources

Hazardous Species

CTM


CVM





UPN




Stages for Implementation

Stage 1

Habitat & infrastructure Management

- Vegetation management
- Retention pond management
- Fencing improvement
- Wildlife deterrence
- Animal carcasses management

Stage 2

Implementation of wildlife control strategies

- Wildlife capture and relocation
- Reproductive control
- Lethal control

Stage 1. Wildlife and habitat monitoring









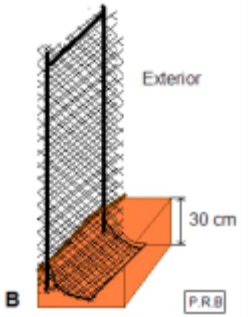
Stage1. Wildlife Monitoring

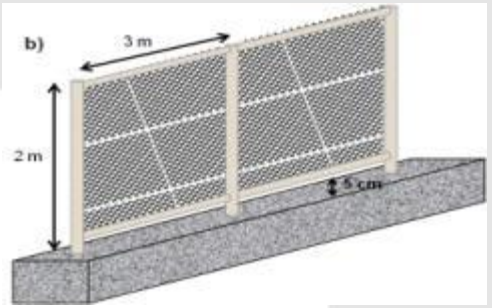
- ✓ Monitoring and record for data base
- ✓ Empty nest removal
- ✓ Fence survey






Stage 1. Fencing improvement



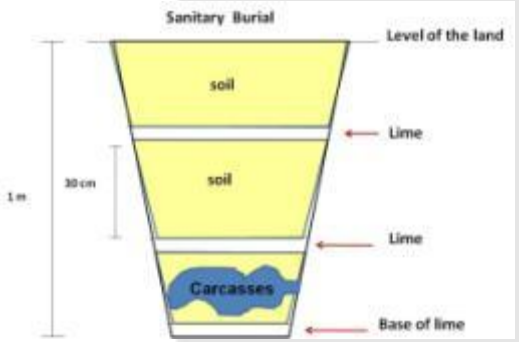


Stage 1. Net placement (TPQ)

Stage 1. Trap Camera monitoring

Stage 1. Management of habitat and food sources

- ✓ Empty nest removal
- ✓ Runways sweeps
- ✓ Animal carcasses management

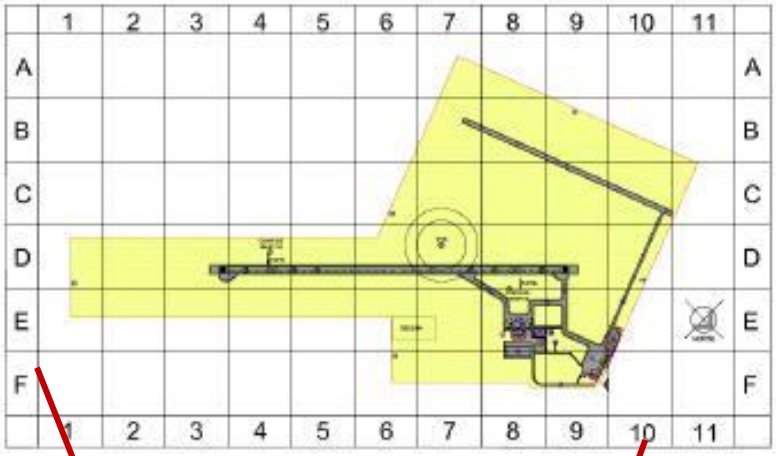


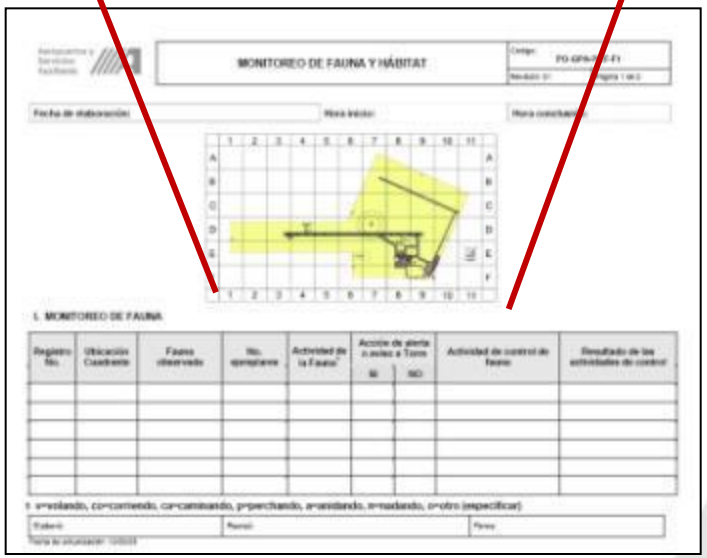
Stage 2. Management, control and relocation of wildlife

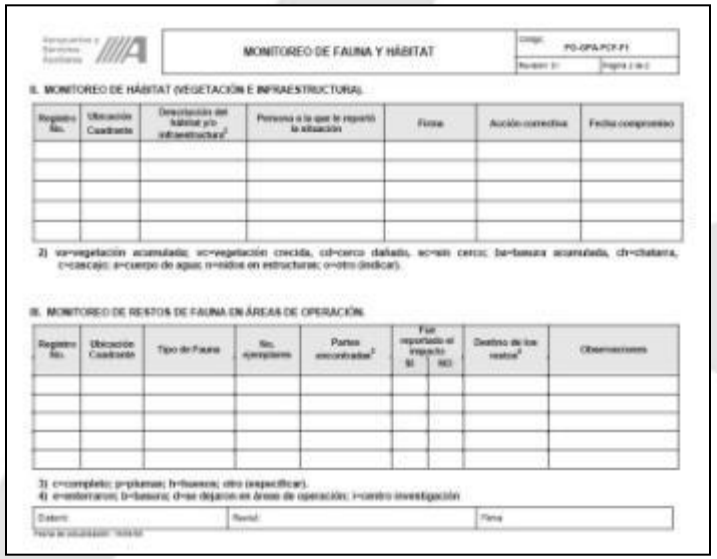
Stage 2. Management, control and relocation of wildlife

Nilgae (*Bocelaphus tragocamelus)*

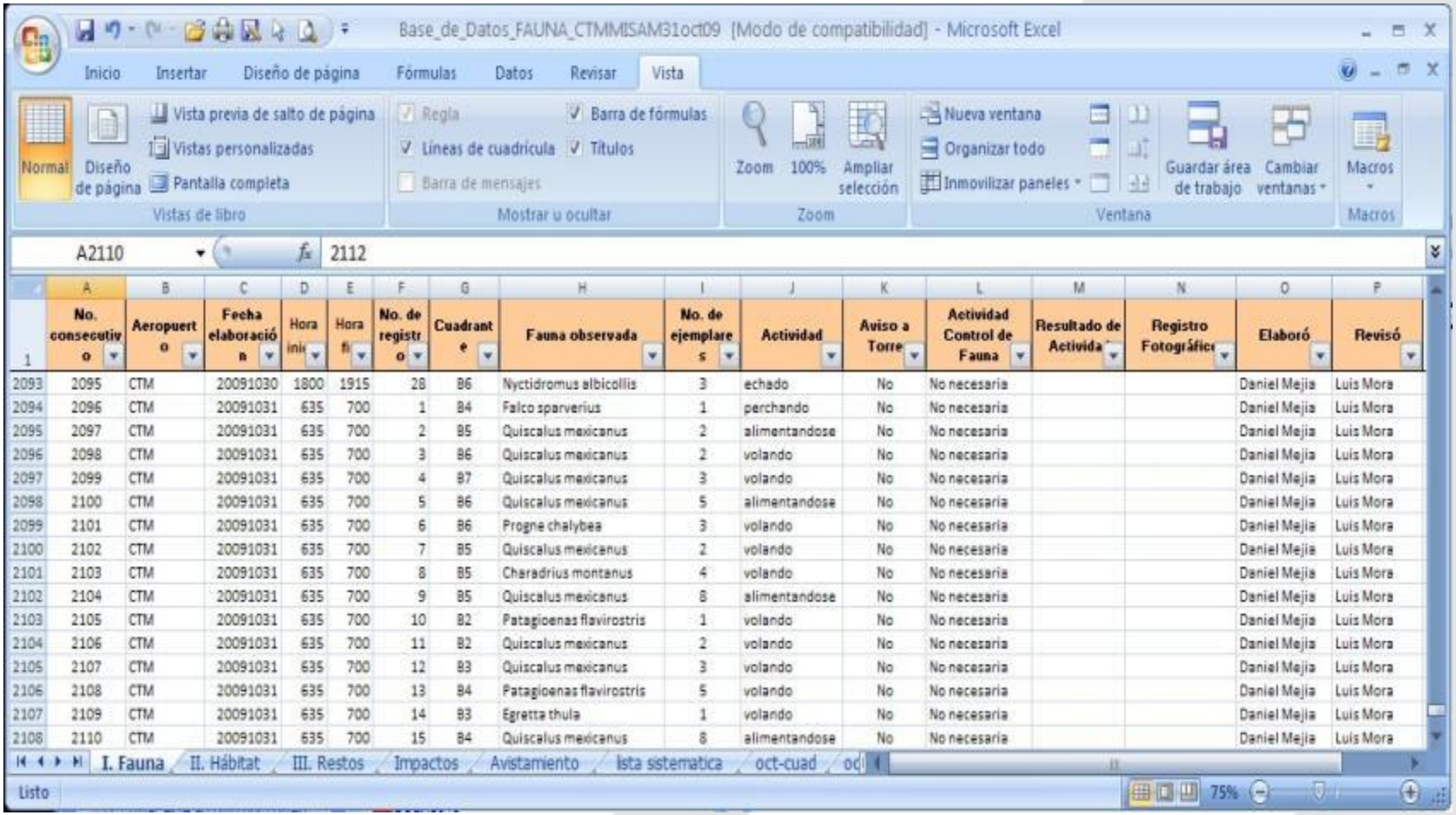
Monitoring records





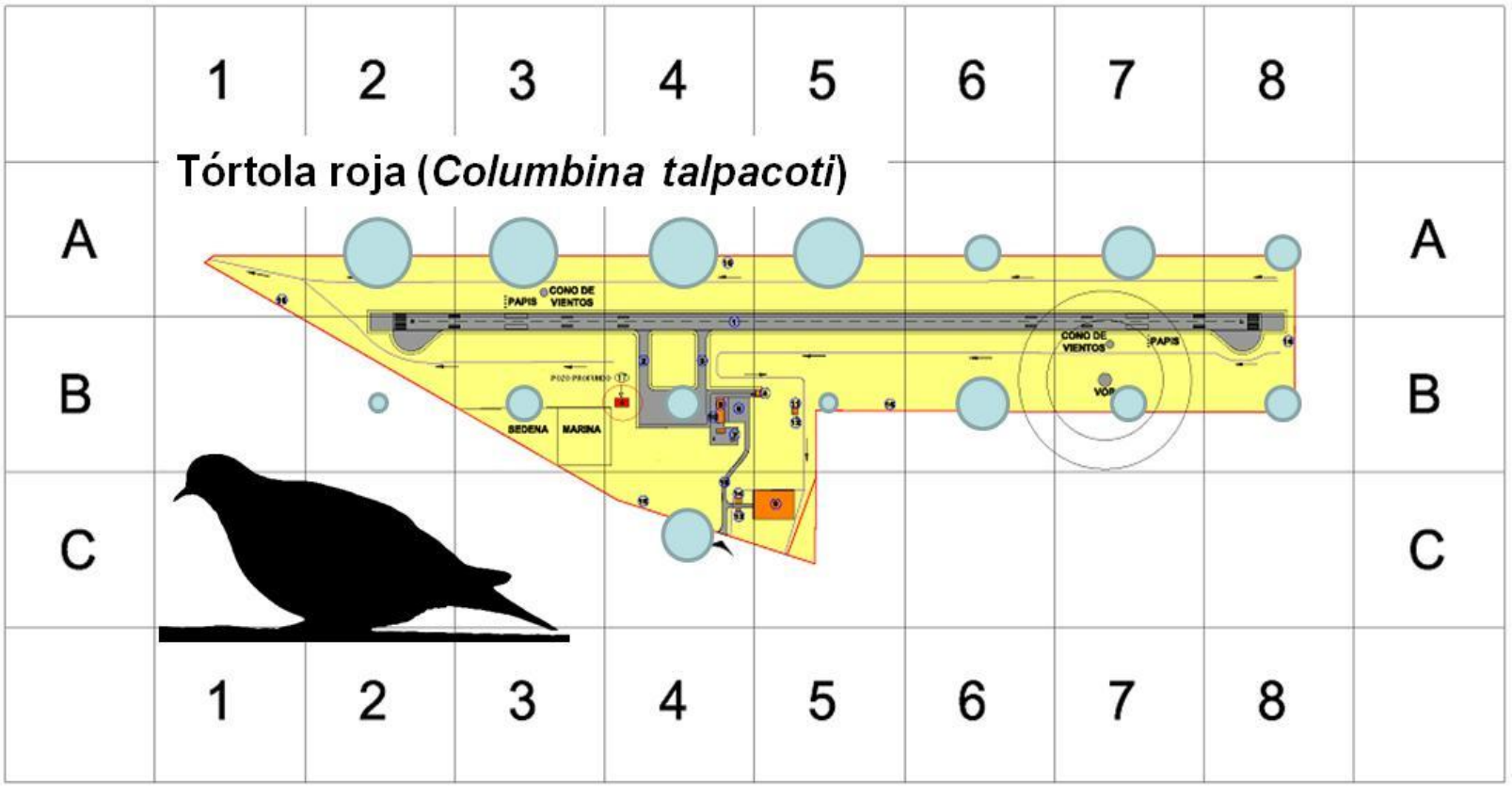


Monitoring records



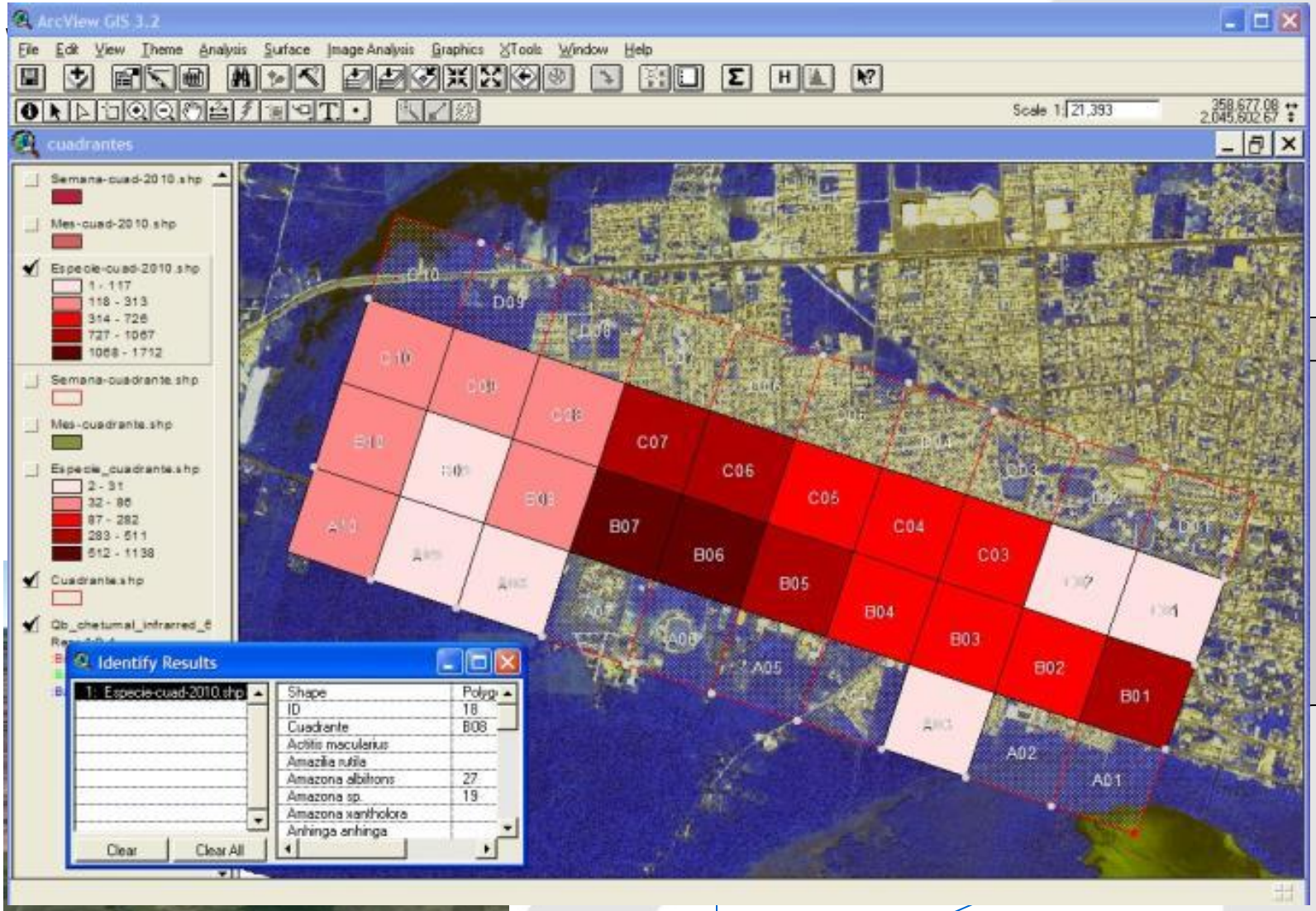
1	No. consecutivo	Aeropuerto	Fecha elaboración	Hora ini	Hora fi	No. de registro	Cuadrante	Fauna observada	No. de ejemplares	Actividad	Aviso a Torre	Actividad Control de Fauna	Resultado de Actividad	Registro Fotográfico	Elaboró	Revisó
2093	2095	CTM	20091030	1800	1915	28	B6	Nyctidromus albicollis	3	echado	No	No necesaria			Daniel Mejia	Luis Mora
2094	2096	CTM	20091031	635	700	1	B4	Falco sparverius	1	perchando	No	No necesaria			Daniel Mejia	Luis Mora
2095	2097	CTM	20091031	635	700	2	B5	Quiscalus mexicanus	2	alimentandose	No	No necesaria			Daniel Mejia	Luis Mora
2096	2098	CTM	20091031	635	700	3	B6	Quiscalus mexicanus	2	volando	No	No necesaria			Daniel Mejia	Luis Mora
2097	2099	CTM	20091031	635	700	4	B7	Quiscalus mexicanus	3	volando	No	No necesaria			Daniel Mejia	Luis Mora
2098	2100	CTM	20091031	635	700	5	B6	Quiscalus mexicanus	5	alimentandose	No	No necesaria			Daniel Mejia	Luis Mora
2099	2101	CTM	20091031	635	700	6	B6	Progne chalybea	3	volando	No	No necesaria			Daniel Mejia	Luis Mora
2100	2102	CTM	20091031	635	700	7	B5	Quiscalus mexicanus	2	volando	No	No necesaria			Daniel Mejia	Luis Mora
2101	2103	CTM	20091031	635	700	8	B5	Charadrius montanus	4	volando	No	No necesaria			Daniel Mejia	Luis Mora
2102	2104	CTM	20091031	635	700	9	B5	Quiscalus mexicanus	8	alimentandose	No	No necesaria			Daniel Mejia	Luis Mora
2103	2105	CTM	20091031	635	700	10	B2	Patagioenas flavirostris	1	volando	No	No necesaria			Daniel Mejia	Luis Mora
2104	2106	CTM	20091031	635	700	11	B2	Quiscalus mexicanus	2	volando	No	No necesaria			Daniel Mejia	Luis Mora
2105	2107	CTM	20091031	635	700	12	B3	Quiscalus mexicanus	3	volando	No	No necesaria			Daniel Mejia	Luis Mora
2106	2108	CTM	20091031	635	700	13	B4	Patagioenas flavirostris	5	volando	No	No necesaria			Daniel Mejia	Luis Mora
2107	2109	CTM	20091031	635	700	14	B3	Egretta thula	1	volando	No	No necesaria			Daniel Mejia	Luis Mora
2108	2110	CTM	20091031	635	700	15	B4	Quiscalus mexicanus	8	alimentandose	No	No necesaria			Daniel Mejia	Luis Mora

Monitoring records



●	≥7≤30	Ejemplares (tercer cuartil a máximo)
●	≥6<7	Ejemplares (mediana al tercel cuartil)
	≥4<6	Ejemplares (primer cuartil a mediana)
●	≥1<4	Ejemplares (mínimo al primer cuartil)

Geographical Information System



Training and awareness

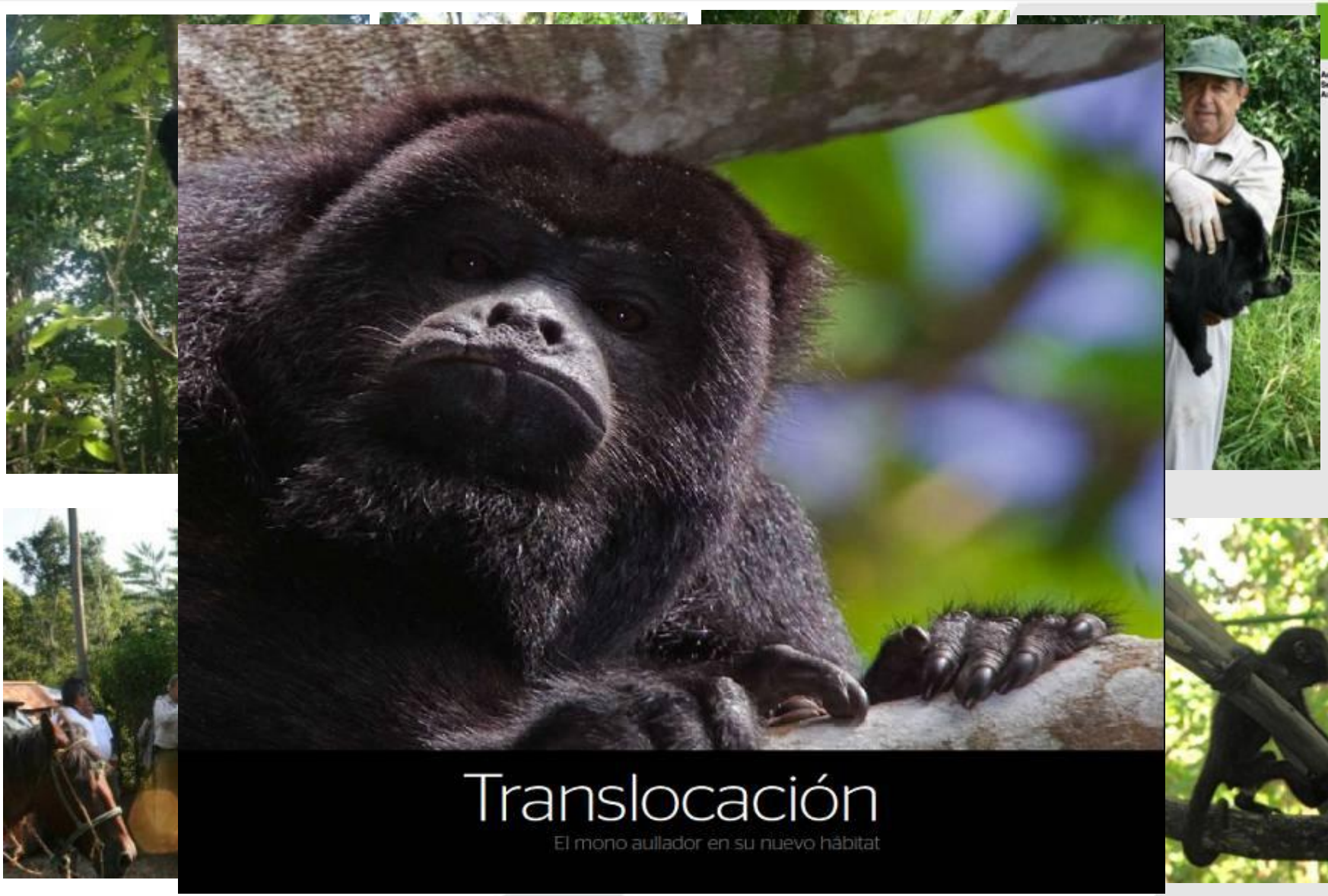
- Since 2005, ASA has trained over 400 airport personnel in the 15 ASA airports.
- ASA has developed special training and awareness workshops for the Aeronautical Authority, airlines and the local community, including children







New Palenque Airport (PQM)



Conclusions

- Mexico has improved greatly in Wildlife Hazard Assessment, Control and Management

- In Mexico, it is important to promote the participation of **pilots, traffic controllers, airlines, aircraft manufactures and maintenance personnel** as well as Aeronautical Authorities in the report strikes

- The database is critical to justify the presence of qualified biologists trained in wildlife damage control.

Thank you for your attention!

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